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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/649,663

08/28/2003

Norio Shimozone

ASA-1150

6928

24956

7590

06/30/2005

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
1800 DIAGONAL ROAD  
SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER

DAVIS, CYNTHIA L

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/649,663

Applicant(s)

SHIMOZONO ET AL.

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/28/03, 1/10/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 7/30/2003. It is noted, however, that applicant has not filed a certified copy of the Japanese application as required by 35 U.S.C. 119(b).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Block.

Regarding claim 1, a switch being connected with a storage unit and a computer, said switch being connected with said storage unit through a plurality of communication lines is disclosed in Block, figure 1, elements 18 (the clustering network acts as the switch), 14 (the target node contains a memory, it acts as the storage unit) and 12 (the source node is the computer). A plurality interfaces being connected with said storage unit or said computer, and an internal switch for connecting said plurality of interfaces with one another is disclosed in figure 1 (the clustering network is connected to the source and target nodes via various links). Said first interface of said plurality of

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interfaces receives a command from said computer, transfers said command to said storage unit through a first communication line of said plurality of communication lines is disclosed in figure 8, elements 180, 182, 184, 186, and 188 (disclosing the procedure for an error-free transmission). If a trouble is detected in said first communication line, transmits frame for noticing an error of said received command to said computer is disclosed in paragraph 59 (the user is notified in case of an error). After said frame for noticing an error transmitted to said computer, and transfers a command to be received from said computer to said storage unit through a different second communication line from said first communication line is disclosed in paragraphs 79 (disclosing autoswitching to a backup path to complete the connection) and 80 (the user may initiate autoswitch in response to a failure, so it would occur after the error message was sent).

Regarding claim 2, said first interface determines a trouble occurs in said first communication line if no response to said command having been transmitted to said storage unit is received a certain length time later is disclosed in figure 8, element 190.

Regarding claim 8, receiving a command from said computer and then transferring said command to said storage unit through a first communication line is disclosed in figure 8, elements 180, 182, 184, 186, and 188 (disclosing the procedure for an error-free transmission from the source, or computer, to the destination, or storage unit); detecting a trouble occurring in said first communication line and transmitting a frame for noticing an error of said received command to said computer is disclosed in paragraph 59 (the user is notified in case of an error). After said frame is

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transmitted to said computer, transferring into said storage unit a command to be received from said computer through a different second communication line from said first communication line is disclosed in paragraphs 79 (disclosing autoswitching to a backup path to complete the connection) and 80 (the user may initiate autoswitch in response to a failure, so it would occur after the error message was sent).

Regarding claim 9, recording an identifier for indicating said received command; and if a trouble is occurring in said first communication line is detected, transmitting to said computer a frame for noticing an error of the corresponding command with said recorded identifier is disclosed in Block, paragraph 59 (the user is registered at the beginning of a session, and is notified in case of an error in their particular connection).

Regarding claim 10, recording a presence or an absence of a data transfer upon the corresponding command with said recorded identifier is disclosed in figure 8, element 190 (a timeout would be an absence of a data transfer). If a trouble is detected said first communication line, transmitting to said computer a frame for noticing an error of said command on which said data transfer is executed, selected from the commands for said recorded identifiers is disclosed in paragraph 59.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Block in view of Espy.

Regarding claim 3, said first interface detects a trouble occurring in said first communication line by determining a cut-out of a physical connection with said storage unit is missing from Block. However, Espy discloses in column 1, lines 38-41, a cut-out being a problem in a network. It would have been obvious to one skilled in the art to use the recovery method of Block to deal with a cut-out, such as is disclosed in Espy. The motivation would be to route around the problem.

4. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Block in view of de Nijs.

Regarding claim 4, said first interface includes a storage unit, when said command is received, said first interface records in said storage unit an identifier for identifying said command, while when a frame for indicting an end of the process specified by said command is received from said storage unit, said first interface erases an identifier for said command corresponding with said frame from said storage unit is missing from Block. However, de Nijs discloses in column 5, line 67-column 6, line 4, and column 6, lines 17-21, and 33-40, a switch that records the beginning of a data transfer, and when notified that the transfer is over, returns to the pre-transfer switch configuration. It would have been obvious to one skilled in the art at the time of the invention to use the transfer-based switching of de Nijs in the system of Block. The motivation would be to keep track of ongoing transmissions in the system, to know what resources are available (de Nijs, column 6, lines 20-21). When a trouble is detected in

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said first communication line, said first interface transmits said computer frame indicting an error of the corresponding command with the identifier recorded in said storage unit is disclosed in Block, paragraph 59 (the user is notified in case of an error in their particular connection).

Regarding claim 5, when a data transfer is started upon said command corresponding with the storage unit, said first interface records in said storage unit information for indicating execution of said data transfer, and if trouble is detected in said first communication line, said first interface creates a frame for indicating an error about said command having the information for indicating a transfer of said data recorded therein, said command being selected from the corresponding commands with the identifiers recorded in said storage unit, and then transmits said created frame to said computer is disclosed in paragraph 59 of Block (disclosing registering user information when a transfer begins, and notifying the user in case of an error).

Regarding claim 6, if a trouble is detected in said first communication line, said first interface transmits to said storage unit said command having no information for indicating a transfer of said data registered therein, selected from the corresponding command with the identifiers recorded in said storage unit, through said second communication line is disclosed in paragraph 79 of Block (disclosing resuming the transfer over the fallback path in the even of failure, this involves sending corresponding command packets to the destination node over the fallback path, see figure 9 for an illustration of connection initiation).

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5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Block in view of Ma.

Regarding claim 7, said first interface provides said computer with a virtual storage and, if a command from said computer to said virtual storage is received, translates said command to said virtual storage into a command to said storage unit is missing from Block. However, Block does disclose the switch passing commands via itself from the computer to the storage unit in figure 9. Further, Ma discloses in paragraph 29 a virtual memory in a switch. It would have been obvious to one skilled in the art at the time of the invention to use the virtual storage of Ma in the system of Block. The motivation would be to reduce the total size of the memory and make it more efficient (Ma, paragraph 29).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

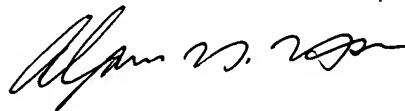


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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD  
6/23/2005

CD  
6/23/05



ALPUS H. HSU  
PRIMARY EXAMINER